

Claim Amendments

Claims 1-20 (canceled)

21. (currently amended) A hearing aid comprising:
a deformable skin which bounds an internal region and wherein the skin does not exhibit sufficient rigidity to be insertable into a user's ear canal; and
at least one spine which extends axially along an interior surface of the skin and is attached thereto sufficiently so as to provide insertion rigidity when the skin is inserted into the user's ear canal.

22. (original) A hearing aid as in claim 21 wherein the skin is formed of an elastomer selected from a class which includes silicone, polyurethane, latex, and polyvinyl-chloride.

23. (original) A hearing aid as in claim 21 which includes an output transducer wherein the skin and spine, but not the output transducer, are distorted on insertion into the ear canal.

24. (original) A hearing aid as in claim 21 wherein the spine comprises a vent tube that is attached to the skin substantially along its length.

25. (original) A hearing aid as in claim 21 which includes a deformable matrix in the region wherein the matrix applies expansive forces to the skin.

26. (previously presented) A hearing aid as in claim 21 wherein the at least one spine is integrally molded with the skin.

27. (original) A hearing aid as in claim 25 wherein the matrix is compressible in response to forces applied by the ear canal whereby a volume parameter of the internal region is dynamically alterable in response to applied ear canal forces.

28. (original) A hearing aid as in claim 26 which includes a plurality of ribs formed on an exterior periphery of the skin.

29. (original) A hearing aid as in claim 21 which includes an audio output transducer in the internal region wherein the transducer is surrounded, at least in part, by a compressible matrix.

30. (original) A hearing aid as in claim 29 wherein the matrix pre-loads the skin with outwardly directed expansive forces.

31. (original) A hearing aid as in claim 29 wherein the matrix comprises at least one of an open cell foam, a closed cell foam, and a fabric.

32. (original) A hearing aid as in claim 25 wherein the expansive forces contribute to the skin forming a seal with the user's ear canal, wherein as the shape of the ear canal changes, due to movement of the user's jaw, the seal is broken, permitting air flow into the canal, and reforms as the matrix continues to apply expansive forces to the skin.

33. (original) A hearing aid as in claim 27 wherein the expansive forces contribute to the skin forming a seal with the user's ear canal, wherein as the shape of the ear canal changes, due to movement of the user's jaw, the seal is broken, permitting air flow into the canal, and reforms as the matrix continues to apply expansive forces to the skin.

34. (original) A hearing aid as in claim 27 which includes a faceplate attached to the skin.

Claims 35-103 (Canceled)

104. (currently amended) A hearing aid comprising:
a deformable skin which bounds an internal region and where the skin is compliant and
at least one spine which extends axially along an interior surface of the skin and is attached thereto sufficiently so as to provide insertion rigidity when the skin is inserted into the user's ear canal.

105. (previously presented) A hearing aid as in claim 104 wherein the skin is formed of an elastomer selected from a class which includes silicone, polyurethane, latex, and polyvinyl- chloride.

106. (previously presented) A hearing aid as in claim 104 which includes an output transducer wherein the skin and spine, but not the output transducer, are distorted on insertion into the ear canal.

107. (previously presented) A hearing aid as in claim 104 wherein the spine comprises a vent tube that is attached to the skin substantially along its length.

108. (previously presented) A hearing aid as in claim 104 which includes a deformable matrix in the region wherein the matrix applies expansive forces to the skin.

109. (currently amended) A hearing aid as in claim 104 wherein the at least one spine is integrally molded with the shell skin.

110. (previously presented) A hearing aid as in claim 108 wherein the matrix is compressible in response to forces applied by the ear canal whereby a volume parameter of the internal region is dynamically alterable in response to applied ear canal forces.

111. (previously presented) A hearing aid as in claim 109 which includes a plurality of ribs formed on an exterior periphery of the skin.

112. (previously presented) A hearing aid as in claim 104 which includes an audio output transducer in the internal region wherein the transducer is surrounded, at least in part, by a compressible matrix.

113. (previously presented) A hearing aid as in claim 112 wherein the matrix pre-loads the skin with outwardly directed expansive forces.

114. (previously presented) A hearing aid as in claim 112 wherein the matrix comprises at least one of an open cell foam, a closed cell foam, and a fabric.

115. (previously presented) A hearing aid as in claim 108 wherein the expansive forces contribute to the skin forming a seal with the user's ear canal, wherein as the shape of the ear canal changes, due to movement of the user's jaw, the seal is broken, permitting air flow into the canal, and reforms as the matrix continues to apply expansive forces to the skin.

116. (previously presented) A hearing aid as in claim 110 wherein the expansive forces contribute to the skin forming a seal with the user's ear canal, wherein as the shape of the ear canal changes, due to movement of the user's jaw, the seal is broken, permitting air flow into the canal, and reforms as the matrix continues to apply expansive forces to the skin.

117. (previously presented) A hearing aid as in claim 110 which includes a faceplate attached to the skin.

118-126 (cancelled)

127. (new) A hearing aid comprising:
a deformable skin which bounds an internal region, the skin has first and second ends;
an audio output transducer in the internal region;
a compressible matrix in the internal region, the matrix surrounds the transducer, at least in part, the matrix is movable relative to the skin;
at least one hollow spline which extends axially along an internal surface of the skin, the spline is attached to the skin at least intermittently along its length, the spline provides stiffness for insertion into a user's ear canal.

128. (new) A hearing aid as in claim 127 where the at least one spline is integrally molded with the skin.

129. (new) A hearing aid as in claim 127 where the hollow spline has an opening at each end of the skin thereby permitting fluid flow therethrough, internal to the skin, from one end of the skin to the other end thereof.

130. (new) A hearing aid as in claim 127 with a faceplate attached to one end of the skin, the faceplate permits fluid flow into and out of the internal region.

131. (new) A hearing aid as in claim 129 with a faceplate attached to one end of the skin, the faceplate permits second fluid flow into and out of the internal region, the fluid flow is separated from the second fluid flow.

132. (new) A hearing aid as in claim 127 where the matrix is not attached to the skin.